



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/500,487      | 08/30/2004  | T V L N Sivakumar    | 59643.00486         | 4474             |

32294 7590 05/07/2007  
SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

|          |
|----------|
| EXAMINER |
|----------|

AJAYI, JOEL

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2617

|           |               |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

05/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/500,487

Applicant(s)

SIVAKUMAR ET AL.

Examiner

Joel Ajayi

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

Applicant's claim for foreign priority under 35 U.S.C. 119(a-d) is acknowledged.

### ***Information Disclosure Statement***

The information disclosure statement submitted on 6/30/04 has been considered by the Examiner and made of record in the application file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mansfield (U.S. Patent Number: 6,704,346)** in view of **Sugar et al. (U.S. Patent Application Number: 2002/0061031)**.

Consider **claim 1**; Mansfield clearly discloses a method of operating a frequency hopping spread spectrum comprising a central node (master device) and dependent nodes (slave device) which communicate over a time division duplexed, frequency hopping channel, alternate time-wise frequency/time slots being allocated for central node and dependent node transmission, wherein a first of said dependent nodes is not permitted to transmit in a frequency/time slot which immediately succeeds, time-wise, a frequency/time slot in which the central node transmitted to another of said dependent nodes (column 3, lines 1-25; column 4, lines 52-61; column 6, lines 38-42; column 7, lines 28-60), comprising the steps of: the central node maintaining a black-list of worse-performing frequency bands in the channel, and transmitting in a frequency/time slot immediately preceding, time-wise, a frequency/time slot allocated for possible dependent node transmission at a frequency band which is black-listed (column 3, lines 1-25; column 4, lines 52-61; column 6, lines 38-42; column 7, lines 28-60).

Except:

Transmitting a dummy packet.

In the same field of endeavor Sugar discloses transmitting a dummy packet (paragraph 7, lines 1-24; paragraph 57, lines 13-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Sugar into the method of Mansfield in order to improve system throughput and reliability of the wireless networks.

Consider **claim 3**; Mansfield clearly discloses a Bluetooth node comprising means for maintaining a black-list of worse performing frequency bands, and means for transmitting in a frequency/time slot immediately preceding, time-wise, a frequency/time slot allocated for possible slave node transmission at a frequency band which is black-listed (column 3, lines 1-25; column 4, lines 52-61; column 6, lines 38-42; column 7, lines 28-60).

Except:

Transmitting a dummy packet.

In the same field of endeavor Sugar discloses transmitting a dummy packet (paragraph 7, lines 1-24; paragraph 57, lines 13-18).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Sugar into the method of Mansfield in order to improve system throughput and reliability of the wireless networks.

Consider **claims 2 and 4**; the combination above clearly discloses that the central node refrains from transmitting on a black-listed frequency/time slot (Mansfield, column 3, lines 1-25; column 4, lines 52-61; column 6, lines 38-42; column 7, lines 28-60; Sugar, paragraph 7, lines 1-24; paragraph 57, lines 13-18).

### *Conclusion*

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450

Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

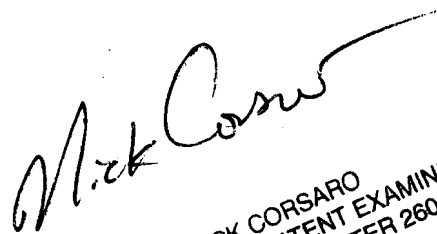
Application/Control Number: 10/500,487

Page 6

Art Unit: 2617

*Joel Ajayi*

April 28, 2007

A handwritten signature in black ink, appearing to read "Nick Corsaro". The signature is written in a cursive, flowing style with a long horizontal stroke extending to the right.

NICK CORSARO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600